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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,368	10/31/2003	Marcel-Catalin Rosu	YOR920030508US1	3047

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EXAMINER

DUNN, DARRIN D

ART UNIT	PAPER NUMBER
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2121

MAIL DATE	DELIVERY MODE
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01/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/699,368	Applicant(s) ROSU ET AL.	
	Examiner DARRIN DUNN	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 6, 14 and 17-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 and 15-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2121

DETAILED ACTION

1. This Office Action is responsive to the communication filed on 11/12/2008.
2. Claims 1-38 are pending. Claims 6, 14, and 17-38 have been cancelled.

Examiner's Interpretation: Computer Readable Medium

Note: Paragraph [0019] of applicant's instant specification refers to "some and/or all of the steps of the methods and the data structure discussed above can be stored on a computer readable medium." Applicant does not elaborate what may constitute a computer readable medium. However, applicant provides that software applications are retrievable from a storage device and loadable into memory. Therefore, for purposes of examination, a computer readable medium, in light of the specification, is interpreted as a tangible medium that functionally interrelates computer code to realize the methods of the invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 2121

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-5, 7-13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boivie (USPN 6415312) in view over Wu (USPN 6601208)

3. As per claims 1, Boivie teaches a method for distributing content to a plurality of receivers wherein said content is packetized into one or more packets, comprising:

establishing a multicast distribution tree rooted at a sender ([FIG 1- element 12], [COL 4 lines 59-60]); and directing the transmission of each of the one or more packets along at least a portion of the multicast distribution tree ([COL 3 lines 1-10]), the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the each of the one or more packets must travel to reach the plurality of receivers ([COL 4 lines 34-45]. [COL 3 lines 44-46], [FIG 1- elements R1, R2, nodes),

wherein the sender defines a different set of the one or more intermediate receivers for each of said one or more packets ([COL 4 lines 30-55])

However, Boivie does not teach wherein at least some of the one or more packets are encoded with forward error correction coding. Wu teaches forward error correction techniques such that encoding methods are performed for transmitting and receiving ends as to provide optimal transmission results. ([ABSTRACT])

Therefore, at the time the invention was made, one of ordinary skill in the art would have motivation to modify Boivie to utilize forward error correction (e.g., a known advantage is that retransmission is unnecessary) opposed to CRC as a means of optimizing transmission. Boivie teaches the use of CRC in a multi-cast distribution of content. Wu teaches the use of forward

Art Unit: 2121

error correction in multicasting ([COL 8 lines 60-65]). Since forward error correction provides benefits such as bandwidth conservation, message delay reduction, reliability improvement, and transmission speed increases, it would have been obvious to use forward error correction.

4. As per claims 2 and 11, Boivie teaches the method of claim 1, wherein the step of directing the transmission further comprises:

encoding the each of the one or more packets with the at least a portion of said multicast distribution tree ([COL 3 lines 1-20]), wherein the multicast distribution tree identifies at least one of the plurality of receivers to which the each of the one or more packets is to be delivered ([COL 3 lines 1-10],, [COL 3 lines 44-46],[COL 4 lines 34-58]) and a path along which the each of the one or more packets is to travel to the at least one of the plurality of receivers ([COL 3 lines 30-35])

5. As per claims 3, Bovie teaches the method of claim 2, wherein the multicast distribution tree is sender-defined ([COL 4 lines 59-60])

6. As per claims 4 and 12, Boivie teaches the method of claim 1, wherein the step of directing the transmission comprises:

sending one of said one or more packets to a first group of the one or more intermediate receivers ([CO 3 lines 44-46]); creating at least one copy. of the one of said one or more packets packet by at least one of said first group of the one or more intermediate receivers ([COL 3 lines 65-67]); and forwarding at least one copy of the one of said one or more packets to at least one receiver in a second group of the one or more intermediate receivers within said multicast distribution tree ([COL 3 lines 65-67], [COL 4 lines 1-3] e.g. packet forwarding is applicable to intermediate and destination nodes)

Art Unit: 2121

7. As per claims 5 and 13 Boivie teaches the method of claim 1, wherein each of the plurality of receivers that is not a final destination for said one or more packets copies and forwards said each of the one or more packets to a subsequent one of the plurality of receivers receiver in accordance with said at least a portion of the multicast distribution tree ([COL 3 lines 44-47])

8. As per claims 7 and 15 Boivie teaches the method of claim 4, wherein transmissions from the sender to each of the plurality of receivers and between two of the plurality of receivers are individually accomplished using unicast distribution communication ([COL 3 lines 47-51])

9. As per claims 8 and 16, Boivie teaches the method of claim 1, wherein the step of establishing a multicast distribution tree comprises:
adjusting a structure of the multicast distribution tree to address a given metric, wherein said metric is at least one of cost, delay, bandwidth, latency or reliability ([COL 7 lines 15-30]).

10. As per claim 9, Boivie teaches a method for distributing content to a plurality of receivers, wherein said content is packetized into at least one packet, comprising: establishing a multicast distribution tree rooted at a sender ([COL 4 lines 59-60]); and directing the transmission of the at least one packet along at least a portion of the multicast distribution tree ([COL 3 lines 1-10]), the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the at least one packet must travel to reach the plurality of receivers ([COL 4 lines 34-45]. [COL 3 lines 44-46], wherein the plurality of receivers to which one or more intermediate receivers are defined by the sender. ([COL 4 lines 30-55])

Art Unit: 2121

11. As per claim 10, Boivie teaches the method of claim 9, wherein the one or more intermediate receivers is different for each of the at least one packet ([COL 3 lines 44-46], [COL 4 lines 34-59])

Response to Amendment

12. Applicant's amendment has been entered and made of record.

Response to Arguments

13. Applicant's arguments, see Amendment/Req. for reconsideration, filed 11/12/2008, with respect to 'forward error correction,' have been fully considered and are persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN DUNN whose telephone number is (571)270-1645. The examiner can normally be reached on EST:M-R(8:00-5:00) 9/5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2121

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DD
01/21/09

/Albert DeCady/
Supervisory Patent Examiner
Art Unit 2121